NOTES ON WEST INDIAN MYRTACEAE

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THE FOLLOWING NOMENCLATURAL and taxonomic notes and descriptions of taxa new to science have resulted from floristic studies on the Myrtaceae of the Lesser Antilles. Abbreviations for herbaria are those of Lanjouw and Stafleu, *Index Herbariorum* (Reg. Veg. 31: [vi], 251 pp. 1964).

Calyptranthes pallens Griseb. Veg. Kar. 67. 1857.

Calyptranthes chytraculia δ *pauciflora* Berg, Linnaea **27**: 27. 1855.

The name is often incorrectly cited as "*Calyptranthes pallens* (Poir.) Griseb." As noted previously (Fieldiana Bot. **29**: 408. 1963), *C. pallens* Griseb. was based wholly on *C. chytraculia* δ *pauciflora* Berg, which in turn was based on a specimen collected in Guadeloupe by Bertero (herb. Sonder., ?MEL, not seen). *Eugenia pallens* Poir. (in Lam. Encyc. Suppl. 3: 122. 1813), however, was based on a specimen from St. Thomas (*Ledru*!, at P). Ledru's specimen is a good flowering specimen of *Calyptranthes pallens*.

Eugenia foetida Pers. Syn. Pl. **2**: 29. Nov. 1806.

Myrtus buxifolia Sw. Prodr. 78. 1788. *Myrtus axillaris* sensu Poir. in Lam. Encyc. **4**: 412. 1797, non Sw. 1788. *Eugenia buxifolia* (Sw.) Willd. Sp. Pl. **2**: 960. 1800, non Lam. 1789. *Eugenia myrtoides* Poir. in Lam. Encyc. Suppl. **3**: 125. 1813.

This common species of the Caribbean region was known as *Eugenia buxifolia* until recently, when it was pointed out anew that the name is illegitimate. It has been treated under the name *Eugenia myrtoides*, and more recently under that of *Eugenia maleolens* Pers. (Syn. Pl. **2**: 29. Nov. 1806).

Eugenia myrtoides Poir. was a name intended to replace the illegitimate *E. buxifolia*. The type of the latter (Hispaniola, *Swartz*!, BM; MICH neg. 1991) clearly represents the species long known as *E. buxifolia*. The type of *E. maleolens* Pers., however, represents another species, viz. *E. monticola* (Sw.) DC. *Eugenia maleolens* was based on "*E. foetida* Vahl in herb. Juss." Number 13927A of the Jussieu Herbarium (P!; MICH neg. 1972) is marked by Jussieu "Eugenia Antilles St. Croix–donné par M. Richard 1791," and in another hand "Eugenia foetida Vahl." The leaves are "ovato-lanceolatis acuminatis" as described by Persoon for *E. maleolens*, and it most probably is the type of that name. The specimen is certainly referable to *E. monticola*.

Eugenia foetida was described as having "fol. oblanceolatis obtusis." It was said to have come from the Antilles "cum priore" (i.e. *E. maleolens*), and the specimen cited was "Richard in herb. Juss." Number 13929 of the Jussieu Herbarium (P!; MICH neg. 1973) is marked by Jussieu "Eugenia foetidissima Rich. Antilles. St. Croix–donné par M. Richard 1791." The leaves are as described by Persoon, and there can be hardly any doubt that the plant is the type of *E. foetida*. It is an ample specimen with scattered immature fruits that presumably represent the "flor. axillaribus solitariis" of the original description. It is clearly of the same species as the type of *Myrtus buxifolia* Sw.

Eugenia hodgei McVaugh, sp. nov.

Arbor 8-metralis, trunco 10 cm. diam., maturitate glaber, hypanthio pedicellisque conferte et minute pilis ca. 0.1 mm. longis hispidulis; calycis lobis, bracteis bracteolisque ciliatis aliter fere glabris; folia elliptica vel obovata vel fere orbicularia, coriacea, supra lucida et atroviridia, subtus pallida, 3.5–6.5 cm. longa, 2.5–4 cm. lata, plerumque 1.5–2-plo longiora quam latiora, apice rotundata vel obtusa, basi acuta vel marginibus ad angulum 90° divergentibus; petioli 4–5 mm. longi; nervus medius supra versus basin saltem canaliculatus; venae laterales utroque latere ca. 6, rectae, subtus prominentiores; venae marginales a marginibus paullo incrassatis revolutisque 1.5–4 mm. remotae, inter venas laterales arcuatae; racemi solitarii vel bini, e nodis defoliatis oriundi, 2–8-flori, rhachidi 2–3 mm. longa vel breviore, 1.5 mm. crassa, bracteis persistentibus instructa; pedicelli 2.5–5 mm. longi; bracteolae subquadratae vel latiores quam longiores, fere vel omnino contiguae, ciliatae, usque ad 0.7 mm. latae; alabastra floresque aperti non visi; hypanthium post anthesin obovoideum, basi subrotundatum, apice truncatum, ca. 1.3 mm. longum crassumque; calycis lobi late rotundati, pallidi, translucentes, glandulis magnis punctati, ciliati sed aliter glabri, majores 1.5–1.7 mm. lati, 0.7–1 mm. longi; discus post anthesin conspicuus, 1.5 mm. latus, minute rareque hispidulus, cicatricibus staminalibus pallidis magnis conspicuis, centro glabro depresso dimidio angustiore; stylus non visus; stamina ca. 50; ovarium biloculare, ovulis quoque loculo 10–12, in placentis centralibus confertis.

Dominica: Xerophytic, wooded slopes west of Morne Gay house, Badineau Estate, alt. ca. 350 m., one of the dominant trees of the scrub forest, 24 III 1940, *W. H. Hodge & B. T. Hodge 2230* (GH, type).

This plant does not seem especially closely related to any other species in the Lesser Antilles or northeastern South America. It is one of many small-flowered species with sparingly pubescent herbage and greatly reduced racemes of short-pedicelled flowers. It may be confused with *E. procera* (in which the pedicels are glabrous and 5–12 mm. long), with *E. axillaris* (in which the flowers are nearly or quite glabrous and the leaves acute or acuminate), and with *E. monticola* or *E. foetida* (in which the leaves are flat in drying and the midvein not grooved nor depressed on the upper surface).

Myrcia antillana McVaugh, sp. nov.

Myrcia edulis sensu Urban, Bot. Jahrb. **19:** 581. 1895, not *Aulomyrcia edulis* Berg, 1861. *Myrcia edulis* var. *dominicana* Krug & Urb. ex Urb. Bot. Jahrb. **19:** 582. 1895.

Arbor usque ad 10–12 m. altus, 20–30 cm. diam., maturitate fere glaber, ramulis paniculisque (floribus exceptis) densiuscule pilis ascendentibus vel appressis, cupreis vel pallide rufis, partim dibrachiatis, strigosis; folia rigide coriacea, subtus in siccitate plerumque cuprea, supra atro-ferruginea; laminae late ellipticae vel elliptico-obovatae, 5–12(–20) cm. longae, 3–6(–11) cm. latae, 1.5–2-plo longiores quam latiores, apice obtuse brevi-acuminatae vel obtusae, basi obtuse angulatae, rotundatae, rariuscule subcordatae vel acutae; petioli 5–7 mm. longi, 2–3 mm. crassi, stratis exterioribus mox suberantibus rimosis exfoliantibus; nervus medius supra impressus; paniculae 6–15 cm. longae, patenti-ramosae, 2–3-plo compositae, floribus plurimis subsessilibus, prope ramulorum apices aggregatis; bracteae ovatae, induratae, per anthesin persistentes; alabastra 3–4 mm. longa, late pyriformia, fere glabra, hypanthii basi angusta sparse pilosa; calycis lobi 5, intus apicibus puberulis exceptis glabri, inaequales, rotundati, usque ad 1 mm. longi, 2.5 mm. lati, in alabastro appressi, sub anthesi patentes, aetate demum decidui vel subdecidui; discus glaber, patelliformis, ca. 3–3.5 mm. latus; stylus ca. 5 mm. longus; stamina 75–100; fructus depresso-globosus, diametro 1.2–2 cm.; ovarium biloculare, loculis biovulatis.

Lesser Antilles from Dominica to St. Vincent, at elevations from 150 to 850 m. above sea level, flowering from February to June.

Guadeloupe: Ravine-Chaude, *Duss 3510* (NY); Sofaya, above Ste. Rose, *Holdridge 446* (NY); without locality, *L'Herminier* (G, MICH).

Dominica: without locality, *Ramage* (K, lectotype, and A, photo. of lectotype of *M. edulis* var. *dominicana*); along the river near Deux Branches, *Hodge 3488* (GH); Brantridge Estate near Pont Casse, *Ernst 1199* (MICH).

St. Lucia: Savanne Edmund Dist., southeast of Piton Troumassée, *Proctor 17733* (A, MICH), *17697* (A, MICH), *17973* (A; MICH, type); summit of Piton Cochon, *J. S. Beard 183* (A); Castries W. W. Reserve, *J. S. Beard 478* (A), probably same locality ["Forestière"], *P. Beard 1053* (GH), *Sturrock 558* (A).

St. Vincent: Mt. Brisbane, *Morton 5982a* (US); Mt. St. Andrews, *Howard 18010* (A); Charlotte Parish, Mt. Grand Bonhomme, *Proctor 26063* (GH, MICH); without locality, *H. H. & G. W. Smith 1553* (GH, NY).

Specimens from Dominica were treated by Urban as a distinct variety because the leaves were relatively longer, and longer-pointed, than those from other islands. The relationships of this species are apparently with *Myrcia inaequiloba* and *M. decorticans* of northeastern South America (see Mem. N. Y. Bot. Gard. **18**(2): 85. 1969).

Myrcia citrifolia (Aubl.) Urb. Repert. Sp. Nov. **16**: 150. 1920.

Myrtus citrifolia Aubl. Fl. Guiane Fr. index p. 20. 1775.

Primarily a West Indian species, *Myrcia citrifolia* is represented by two well-marked and partly geographically separated varieties. In var. *imrayana* (Griseb.) Stehlé & Quent. (Fl. Guad. Dépend. Mart. 2(fasc. 3): 57. 1949) the leaves are prevailingly elliptic-obovate, dull or scarcely glossy; the pubescence of the young shoots is relatively abundant; the panicles are relatively crowded, the flowers irregularly disposed, and the common peduncles elongate. The type was from Dominica (*Imray*!, isolectotype, GH). In var. *citrifolia* the leaves are mostly elliptic to suborbicular, rigid and glossy; the pubescence is scanty; the panicles are very openly branched, regularly forked, short-peduncled. The name *Myrtus citrifolia* was based wholly upon "MYRTUS cotini folio. PLUM. CAT. 19. Myrtus foliis alternis, ovatis. BURM. *Amer. p.* 203. *t.* 208. *fig.* 2" (Aublet, Fl. Guiane Fr. 513. 1775). Burman's plate cited by Aublet represents a markedly round-leaved plant with open inflorescence (i.e., what I take to be var. *citrifolia*); the plate itself seems to have been based with some modifications upon a Plumier drawing at P (Bibliothèque Centrale). (Plumier mss. vol. 7, *pl. 83*!, "Myrtus cotini folio.") According to the manuscript accompanying the Plumier drawing, the plant came originally from Martinique ["illam regionem qua vulgo (Le Cul de Sac à Vache) vocitatur"].

Psidium longipes (Berg) McVaugh, comb. nov.

Eugenia longipes Berg, Linnaea **27**: 150. Jan. 1856. *Myrtus verrucosa* Berg, Linnaea **27**: 405. Feb. 1856. *Eugenia orbicularis* Berg, Linnaea **30**: 678. 1861. *Eugenia bahamensis* Kiaersk. Bot. Tidsskr. **17**: 266. preprint 1890. *Myrtus anguillensis* Urb. Symb. Antill. **6**: 21. 1909. *Anamomis longipes* (Berg) Britton ex Small, Fl. Miami 132. 1913. *Anamomis bahamensis* (Kiaersk.) Britton ex Small, Fl. Florida Keys 104. 1913. *Myrtus bahamensis* (Kiaersk.) Urb. Ark. Bot. **21A**(5): 18. 1927. *Mosiera bahamensis* (Kiaersk.) Small, Man. Southeast. Fl. 937. 1933. *Mosiera longipes* (Berg) Small, Man. Southeast Fl. 937. 1933. *Myrtus orbicularis* (Berg) Burret, Notizbl. Bot. Gart. Berlin **15**: 482. 1941.

This has traditionally been treated as a group of three species, one ("*longipes*" or "*verrucosa*") in Florida and the Bahamas, one ("*bahamensis*") mostly in the Bahamas, and the third ("*orbicularis*") in the northern Lesser Antilles. As late as Urban's revision of West Indian Myrtaceae (1895), all three were included in *Eugenia* primarily because of the 4-merous flowers. Britton and his associates supposed erroneously that these taxa were congeners of Grisebach's *Anamomis fragrans*, which belongs to quite a different group of genera. It was not until the work of Burret (1941; see above) that all were assigned a place in *Myrtus*, although each was treated as a separate species. Even this last disposition is open to question.

As implied by Burret in his overview of *Myrtus*, and as argued in more detail in Taxon 17: 402, 403. 1968, *Myrtus* as a genus is difficult to defend in the American flora. Burret retained in his conception of the worldwide genus only 14 species of the West Indies in addition to the type

and one North African species. In my opinion he did not go far enough. The West Indian species I have studied have more in common with other American species of *Psidium* than with *Myrtus communis* L., the type-species of its genus.

It was pointed out (Fieldiana Bot. 29: 514–516. 1963) that the most reliable distinction between *Myrtus* and *Psidium* is not the feature of open vs. closed calyx, as many workers following Bentham and Niedenzu have supposed (cf. Alain in Fl. Cub. 3: 410. 1953). In fact, about two-thirds of all known species of *Psidium* have an open 4- or 5-lobed calyx. The primary observable difference between these two genera is in the degree to which the hypanthium splits between the calyx-lobes after anthesis; in *Myrtus* proper the calyx-lobes remain contiguous even in fruit; in *Psidium* the calyx and hypanthium split irregularly between the lobes, often down to the summit of the ovary.

In all the forms of *Psidium longipes*, as far as I have observed them, the fruiting calyx develops short but definite fissures between the lobes in the manner of other unquestioned species of *Psidium* in the West Indies. In view of the calyx character and the strong morphological resemblances between *P. longipes* and such species as *P. rotundatum* Griseb. of Cuba, it seems appropriate to transfer *Eugenia* (or *Anamomis*, or *Mosiera*) *longipes*, to *Psidium*. Another species of the same affinity is **Psidium moensis** (Britt. & Wils.) McVaugh, comb. nov. (*Eugenia moensis* Britt. & Wils. Mem. Torrey Bot. Club 16: 88. 1920). In the absence of fruit, this plant was described as a *Eugenia* because of the 4-lobed calyx and axillary flowers. Fruiting specimens now at hand, e.g., *Clemente & Alain 4026* (GH), clearly show the pimentoid character of the seeds and the calyx of *Psidium*.

As there has been no suggestion that there may be reproductive barriers between the island populations representing "*longipes*," "*bahamensis*," and "*orbicularis*," it seems unrealistic to treat the populations as separate species, even though the extremes may be recognizable morphologically. I find no qualitative differences among them; the existing differences are in presence or absence of pubescence, in size and shape of leaves, length of petioles and peduncles, and perhaps in size of flowers. These features may be summarized as follows:

Plants essentially glabrous; leaves 1–2.7 cm. long, 0.7–1.8 cm. wide, 2–3 times as long as wide, elliptic or ovate, obtuse to rounded or acute at tip and base; petioles 1–2 mm. long; peduncles (0.8–)1.7–2.5(–3.5) cm. long; bracteoles 1.5–3 mm. long; floral disk 2.5–3.5 mm. wide; southern Florida, Bahamas. ..... var. *longipes*.

Plants glabrous or the branchlets hispidulous; leaves 1–4.5 cm. long, (0.7–)1–2(–3.5) cm. wide, elliptic to orbicular, rounded to obtusely pointed at apex, rounded to subcordate (rarely acute) at base; petioles 1.5–4 mm. long; peduncles 1.5–4(–5) cm. long; bracteoles 2.5–4 mm. long; floral disk 2.7–4 mm. wide.

Plants mostly glabrous (some populations from the eastern Bahamas and Caicos Islands pubescent); leaves elliptic-ovate or elliptic, 0.7–2(–3.5)

cm. wide, 1.25–2 times as long as wide; peduncles 2–4(–5) cm. long. Bahamas, Turks & Caicos Islands. ..... "*bahamensis*."

Plants mostly pubescent (some populations on Antigua glabrous); leaves broadly ovate or elliptic to suborbicular, (0.7–)1–2(–2.8) cm. wide, as wide as long or up to 1.5 times as long as wide; peduncles 1.5–2 cm. long; Anguilla, St. Barthélemy, Antigua, Barbuda. .... "*orbicularis*."

Many populations in the Bahamas seem intermediate in leaf-form between typical "*longipes*" and "*orbicularis*." There seems to be no clear distinction between the rather variable taxon that has been called "*bahamensis*," and the somewhat less variable "*orbicularis*." It seems appropriate and useful, however, to distinguish nomenclaturally between the morphological extremes that are also separated geographically:

1. **Psidium longipes**, var. **longipes**. *Eugenia longipes* Berg, the type from Florida, *Cabanis s.n.* (B, presumably now destroyed).
2. **Psidium longipes** var. **orbiculare** (Berg) McVaugh, comb. nov. *Eugenia orbicularis* Berg, the type from Barbuda ("Barbados"), *Richard*! (P). *Eugenia bahamensis* Kiaersk., the type from Acklin's Island, *Eggers 3917* (not seen, presumably at C). *Myrtus anguillensis* Urb., the type from Anguilla, *Boldingh 3509*B! (isotype, NY).

Broad-leaved and narrow-leaved forms occur both in "*bahamensis*" and "*orbicularis*," but I cannot correlate these differences with others. The type of *Eugenia bahamensis* represented one of the pubescent populations with relatively broad leaves, i.e., more like "*orbicularis*" than "*longipes*." *Myrtus anguillensis* is a plant with leaves tending to be obovate rather than elliptic.

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